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PATENT APPLICATION 123

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IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: David H. Hanes

Confirmation No.: 2563

Application No.: 09/910,970

Examiner: Jamie J. Vent

Filing Date: July 20, 2001

Group Art Unit: 2613

Title: SYSTEM AND METHOD FOR DETECTING
THE BORDER OF RECORDED VIDEO DATA

Mail Stop Appeal Brief-Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

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TRANSMITTAL OF REPLY BRIEF

Sir:

Transmitted herewith in **triplicate** is the Reply Brief with respect to the Examiner's Answer mailed on 8/26/2004. This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new grounds of rejection.)

No fee is required for filing of this Reply Brief.

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Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPEAL FROM THE EXAMINER TO THE BOARD
OF PATENT APPEALS AND INTERFERENCES

In re Application of: David H. Hanes

Serial No.: 09/910,970

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MAIL STOP: APPEAL BRIEF-PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

Dear Sir:

REPLY BRIEF

Applicant respectfully submits this Reply Brief in response to the Examiner's
Answer mailed August 26, 2004, pursuant to 37 C.F.R. § 1.193(b).

REPLY BRIEF

STATUS OF CLAIMS¹

Claims 1-20 and 22-40 stand rejected pursuant to a Final Office Action mailed January 2, 2004. Claims 36-40 were canceled without prejudice or disclaimer. Claims 1-20 and 22-35 are presented for appeal.

STATEMENT OF ISSUES

1. Are claims 1-7, 9-13, 15-19, 22-29 and 31-35 unpatentable under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,812,732 issued to Dettmer et al. ("*Dettmer*")?
2. Are claims 8, 14, 20 and 30 unpatentable under 35 U.S.C § 103(a) in view of *Dettmer* in combination with U.S. Patent No. 5,343,251 issued to Nafeh ("*Nafeh*")?

ARGUMENT

A. Issue 1: Claims 1-7, 9-13, 15-19 and 22 (Group 1) are patentable over *Dettmer*.

Claims 1-7, 9-13, 15-19 and 22 (Group 1) stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Dettmer*. Of these claims, claims 1, 9 and 15 are independent. Applicant respectfully submits that each independent claim is patentable over *Dettmer*, and thus remaining claims 2-7, 10-13, 16-19 and 22 which depend from the independent claims, are also patentable.

In the Examiner's Answer, the Examiner states that that *Dettmer* discloses a system in which video frames are analyzed to determine undesired programs (commercials) from desired programs (Examiner's Answer, page 3). However, the analysis in *Dettmer* referred to by the Examiner is still the result of analyzing a signal in *Dettmer* where each frame of the *Dettmer* signal has content (i.e., either program

¹ The Examiner's Final Office Action indicates and maintains a rejection of claims 1-40, but Applicant canceled claim 21 without prejudice or disclaimer in a response filed September 24, 2003. To avoid any confusion, previously canceled claim 21 is not presented for appeal.

data content or commercial data content). Thus, in *Dettmer*, signals containing data content are analyzed, and then a determination is made whether to record the data content. Therefore, in *Dettmer*, a decision not to record data does not occur (become “unrecorded”) until after the data content has been analyzed, in contrast to “analyzing . . . video frames . . . comprising . . . unrecorded data content” as recited by claim 1 of the present application. Thus, according to Applicant’s invention as presently claimed, the analysis of the frames is performed on frames having unrecorded data content. Accordingly, the claims of the present invention differ from *Dettmer* in at least one important respect: analyzing a frame having unrecorded content thereon (according to Applicant’s invention as presently claimed) versus analyzing a frame having recorded content thereon and then determining not to record such frame (according to *Dettmer*). Therefore, for at least the reasons discussed above and in Applicant’s Appeal Brief, independent claims 1, 9 and 15 of the present application is patentable over *Dettmer* because *Dettmer* does not disclose, teach or suggest the elements of independent claims 1, 9 and 15. Thus, Applicant respectfully submits that the rejection of claims 1, 9 and 15 based on *Dettmer* was improper, and that the claims of Group 1 (claim 1 and claims 2-7 that depend from claim 1; claim 9 and claims 10-13 that depend from claims 9; and claim 15 and claims 16-19 and 22 that depend from claim 15) are in condition for allowance.

B. Issue 1: Claims 23-28 (Group 2) are patentable over *Dettmer*.

Claims 23-28 (Group 2) stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Dettmer*. Of these claims, claim 23 is independent. Applicant respectfully submits that independent claim 23 is patentable over *Dettmer*, and thus remaining claims 24-28 which depend from independent claim 23 are also patentable.

In the Examiner’s Answer, the Examiner asserts column 12, lines 38-44, and column 3, lines 7-14, of *Dettmer* discloses the elements of independent claim 23 (Examiner’s Answer, page 4). Applicant respectfully disagrees. *Dettmer* states that “two successive images” may be measured and that “[i]f the amount of pixels in which two images differ is low, then there is no significant change in the image content” (*Dettmer*, col. 12, lines 38-44). However, such images referred to in *Dettmer*

still apparently represent frames having content thereon (i.e., in the form of either program material or commercial material), in contrast to a frame having unrecorded data content thereon (e.g., in the form of snow or a random black and white pattern). Thus, *Dettmer* distinguishes only between different types of data content by determining color variances between image frames each having content thereon. Accordingly, *Dettmer* fails to disclose, teach or suggest identifying a border between “unrecorded data content . . . and recorded data content . . . if pixel values” of at least one frame of the video data correspond substantially “to a particular color” as recited by claim 23 of the present application (emphasis added).

Accordingly, for at least the reasons discussed above and in Applicant’s Appeal Brief, independent claim 23 of the present application is patentable over *Dettmer* because *Dettmer* does not disclose, teach or suggest the elements of independent claim 23. Thus, Applicant respectfully submits that the rejection of claim 23 based on *Dettmer* was improper, and that the claims of Group 2 (claim 23 and claims 24-28 that depend from claim 23) are in condition for allowance.

C. Issue 1: Claims 29 and 31-35 (Group 3) are patentable over *Dettmer*; and Issue 2: Claims 8, 14, 20 and 30 (Group 4) are patentable over *Dettmer* in view of *Nafeh*.

Claims 29 and 31-35 (Group 3) stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Dettmer*. Of these claims, claim 29 is independent. Claims 8, 14, 20 and 30 (Group 4) stand rejected under 35 U.S.C § 103(a) in view of *Dettmer* in combination with *Nafeh*. Applicant respectfully submits that independent claim 29 is patentable over *Dettmer*, and thus remaining claims 31-35 which depend from independent claim 29 and claims 8, 14, 20 and 30 are also patentable. Applicant also respectfully submits that claims 8, 14, 20 and 30 are patentable over *Dettmer* in combination with *Nafeh*.

In the Examiner’s Answer, the Examiner again asserts that *Dettmer* discloses use of a vector (Examiner’s Answer, page 5) in the disclosure of *Dettmer* referring to the use of a histogram for brightness distribution (*Dettmer*, column 12, lines 19-31).

However, Applicant remains unable to identify any disclosure in *Dettmer* that discloses, teaches or in any way suggests the use of a vector as indicated by the Examiner, nor has the Examiner explicitly identified any such passage in *Dettmer*. Accordingly, for at least this reason, independent claim 29 of the present application is patentable over *Dettmer* because *Dettmer* does not disclose, teach or suggest the elements of independent claim 29 and, therefore, the claims of Group 3 (claim 29 and claims 31-35 that depend from claim 29) are in condition for allowance.

Further, because *Dettmer* does not disclose, teach or suggest the use of a vector, which the Examiner is apparently relying on to combine reference teachings, the proposed combination of *Dettmer* and *Nafeh* is improper. Accordingly, for at least this reason also, the rejection of claims 8, 14, 20 and 30 based on the combination of *Dettmer* and *Nafeh* was improper, and the claims of Group 4 (claims 8, 14, 20 and 30) are in condition for allowance.



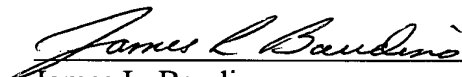
CONCLUSION

Applicant has demonstrated that the present invention as claimed is clearly distinguishable over the art cited of record. Therefore, Applicant respectfully requests the Board of Patent Appeals and Interferences to reverse the final rejection of the Examiner and instruct the Examiner to issue a notice of allowance of all claims.

No fee is believed due with this Reply Brief. If, however, Applicant has overlooked the need for any fee, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 08-2025 of Hewlett-Packard Company.

Respectfully submitted,

Date: 10-7-04


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APPENDIX A



1. A method for detecting the border of recorded video data, comprising:
analyzing a plurality of video frames, the plurality of video frames comprising
recorded data content and unrecorded data content; and
identifying at least one frame of the unrecorded data content as a border of the
recorded data content.
2. The method of claim 1, further comprising digitizing at least a subset
of the plurality of video frames.
3. The method of claim 2, further comprising compressing the at least a
subset of the digitized plurality of video frames.
4. The method of claim 2, further comprising formatting the at least a
subset of the digitized plurality of video frames.
5. The method of claim 1, further comprising storing the recorded data
content on optical storage media using a media storage system based on the identified
border.
6. The method of claim 1, further comprising receiving at least a subset
of the plurality of video frames from one of the group consisting of a video
camcorder, video recorder, and a digital data stream.
7. The method of claim 1, further comprising:
creating a histogram of at least one of the plurality of video frames; and
determining from the histogram the at least one frame of unrecorded data content.

8. The method of claim 1, further comprising:
analyzing motion vectors created from at least one of the plurality of video frames; and
determining from the motion vectors the at least one frame of unrecorded data content.

9. A system for detecting the border of a video stream, comprising:
a video data source; and
a border detection module coupled to the video data source and operable to receive a plurality of video frames, the plurality of video frames comprising recorded data content and unrecorded data content, analyze the plurality of video frames, and
identify at least one frame of the unrecorded data content as a border of the at least one recorded data content.

10. The system of claim 9, further comprising a media storage system operable to store the recorded data content based on the identified border.

11. The system of claim 10, wherein the media storage system comprises optical storage media.

12. The system of claim 9, wherein at least a subset of the plurality of video frames is received from one of the group consisting of a video camcorder, video recorder, and a digital data stream.

13. The system of claim 9, wherein the border detection module is further operable to:
create a histogram of at least one of the plurality of video frames; and
determine from the histogram the at least one frame of unrecorded data content.

14. The system of claim 9, wherein the border detection module is further operable to:

analyze motion vectors created from at least one of the plurality of video frames; and

determine from the motion vectors the at least one frame of unrecorded data content.

15. An application for detecting a border of recorded video data comprising:

a border detection module; and

logic residing on the module, the logic operable to receive a plurality of video frames, the plurality of video frames comprising recorded data content and unrecorded data content, analyze the plurality of video frames, and identify at least one frame of the unrecorded data content as a border of the recorded data content.

16. The application of claim 15, wherein the logic residing on the module comprises at least one software application.

17. The application of claim 15, wherein the logic residing on the module comprises firmware.

18. The application of claim 15, wherein the logic is operable to:

create a histogram of at least one of the plurality of video frames; and

determine from the histogram the at least one frame of unrecorded data content.

19. The application of claim 15, wherein the logic is further operable to record the recorded data content onto an optical storage medium using a media storage system based on the identified border.

20. The application of claim 15, wherein the logic is further operable to:
analyze motion vectors created from the at least one of the plurality of video
frames; and

determine from the motion vectors the at least one frame of unrecorded data
content.

22. The application of claim 15, wherein at least a subset of the plurality of
video frames is received from one of the group consisting of a video camcorder, video
recorder, and a digital data stream.

23. A system for detecting a border of video data, comprising:
a border detection module; and

logic residing on the module, the logic adapted to compare at least two video
frames of the video data, the logic adapted to identify at least one of the two video
frames as a border between unrecorded data content of the video data and recorded
data content of the video data if pixel values of the at least one of the two video
frames corresponds substantially to a particular color.

24. The system of Claim 23, wherein the logic is adapted to initiate
recording of the recorded data content onto a media storage system based on the
border video frame.

25. The system of Claim 24, wherein the logic is adapted to format the
recorded data content corresponding to a type of the media storage system.

26. The system of Claim 23, wherein the logic is adapted to compare the at
least two video frames in real-time.

27. The system of Claim 23, wherein at least a subset of the at least two
video frames is received from one of the group consisting of a video camcorder, video
recorder, and a digital data stream.

28. The system of Claim 23, wherein the logic is adapted to create at least one histogram for comparing the at least two video frames.

29. A system for detecting a border of video data, comprising:
a border detection module; and

logic residing on the module, the logic adapted to compare at least two video frames of the video data, the logic adapted to identify at least one of the two video frames as a border between unrecorded data content of the video data and recorded data content of the video data if an amount of motion in one of the at least two video frames exceeds a predetermined threshold relative to another one of the at least two video frames.

30. The system of Claim 29, wherein the logic is adapted to analyze motion compensation vectors to determine the amount of motion.

31. The system of Claim 29, wherein the logic is adapted to initiate recording of the recorded data content onto a media storage system based on the border video frame.

32. The system of Claim 31, wherein logic is adapted to format the recorded data content corresponding to a type of the media storage system.

33. The system of Claim 29, wherein the logic is adapted to compare the at least two video frames in real-time.

34. The system of Claim 29, wherein the video data comprises compressed video data.

35. The system of Claim 29, wherein the at least two video frames is received from one of the group consisting of a video camcorder, a video recorder, and a digital data stream.